

AMENDMENTS TO THE DRAWINGS

Please replace original Figures 1, 2, 3a, 3b, 7a, 7b, 7c, and 8-13 with the following formal Figures 1, 2, 3a, 3b, 7a, 7b, 7c, and 8-13 on the attached 8 Replacement Sheets.

Attachment: 8 Replacement Sheets

REMARKS

Claims 1-69 are pending in the application, and are currently rejected. Claims 10, 38, 51, and 60 have been amended. Claims 1-9, 15, 22, 23, 42, and 55 are canceled without prejudice. Support for the claim amendments can be found throughout the originally filed specification and claims. Specifically, support for the phrase "so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area" in claims 10, 38, 51 and 60 can be found in paragraph [0014] of the published application. Support for the phrase "without removing the respective hairs" in claim 10 can be found, for example, in paragraph [0051] of the published application. Specifically, support for the amendments to claim 60 can be found in paragraph [0009] of the published application. Support for the amendments to claim 51 can be found in paragraph [0065] of the published application. Support for the amendments to claim 10 can be found in paragraph [0060] of the published application. No new matter has been added.

Amendment of the claims should in no way be construed as an acquiescence to any of the Examiner's rejections and has been done solely to more particularly point out and distinctly claim the invention, and to expedite the prosecution of the application. Applicants reserve the right to pursue the claims as originally filed in this or a separate application(s).

The application is believed to be in condition for allowance, as discussed below. Applicants discuss below initially the rejections pursuant to 35 U.S.C. 102 and then subsequently the rejections raised pursuant to 35 U.S.C. 103

Objection to the Drawings

In response to the Examiner's objection to the drawings, Applicants submit herewith Replacement Sheets for Figures 1, 2, 3a, 3b, 7a, 7b, 7c, and 8-13, and respectfully request that the objection to the drawings be withdrawn.

Rejections Under 35 U.S.C. 102(b)

Claim 7-9, 38, 44-46, 49-53, 55, 58, and 59

Rejections Based On Lefki

Claims 7-9 are rejected as being anticipated by Published International Application No. WO 00/62700 of Lefki. Claim 7-9 have been canceled rendering this rejection moot.

Rejections Based On Altshuler

Claims 7-9, 38, 44-46, 49-53, 55, 58 and 59 are rejected as being anticipated by U.S. Patent No. 6,273,884 of Altshuler '884. Claims 7-9 have been canceled.

Amended independent claim 38 recites a method of treating hair that includes applying electromagnetic radiation to a skin treatment area for one or more hair shafts in the treatment area so as to cause a *change in elasticity* of said hair shafts, *so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area*. Support for the amendment can be found in paragraph [0014] of the published application.

Altshuler does not disclose a method for *preventing, reducing, or treating pseudofolliculitis barbae (PFB) in a skin treatment area*.

Hence, independent claim 38 and claims 44-46, 49 and 50, which depend directly or indirectly on claim 38 are patentable over Altshuler.

As amended, claim 51 recites “applying electromagnetic radiation having wavelength components in a range *greater than 1200 to about 1400 nm* to one or more hair follicles in a skin treatment area so as to modulate hair growth, *and prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area*.”

In contrast, Altshuler does not disclose applying electromagnetic radiation to the skin so as to *prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area*.

Accordingly, claims 52, 53, 55, 58 and 59, which depend on claim 51, are patentable as well.

Claims 10-24, 21-32, 36-57 and 59-69

Rejections Based on Azar et al.

Claims 10-19, 21-28, 32 and 36-38 are rejected as being anticipated by U.S. Patent No. 6,187,001 of Azar et al.

Claim 10, as amended, discloses a hair treatment method that includes applying electromagnetic radiation *in a range of about 380 nm to less than about 600 nm* to a skin treatment area to deposit energy in one or more hair tips in a treatment area to modify the shape of at least a portion of the hair tips, *without removing the respective hairs, so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.* Support for the amendment to claim 10 can be found, e.g., in original claim 23 and paragraphs [0014] and [0051] of the published application.

Azar is directed to a hair removal method in which a region of skin is disposed in a cavity in which a volume of air is enclosed. The air in the cavity is heated by a heat source, such as a flash lamp, to provide a sufficiently high temperature to “kill any hair within the cavity.” col. 1, lines 54-56. In some cases, “a heat gradient, having a higher temperature at the end of the air volume adjacent the flash lamp and a lower temperature at the end of the air volume adjacent the skin, is formed.” (col. 1, lines 59-62). In such cases, “[T]he parts of the hairs closer to the flash lamp are heated by the hot air resulting in removal of at least part of the hairs.” col. 1, lines 62-64 Further, in some cases, broadband radiation emitted by the heat source (e.g., flash lamp) can heat the portions of the hairs within the follicles, thus facilitating the heating of the hair follicles to a coagulation temperature.

Azar does not teach or suggest a method for modifying the shapes of hair tips via application of radiation *without removing the hairs, so as to prevent, reduce, or treat*

pseudofolliculitis barbae (PFB) in the skin treatment area. On the contrary, it is entirely directed to hair removal. As such, it does not teach the claimed subject matter and its associated advantages, e.g., *preventing, reducing, or treating* pseudofolliculitis barbae (PFB) by rounding hair tips rather than removing the hairs.

Thus, claim 10 and claims 11-19, 21-29, 32, 36, and 37 that depend on claim 10 are patentable over Azar.

Independent claim 38, as amended, recites a method of treating hair by applying electromagnetic radiation to a skin treatment area for one or more hair shafts in the treatment area so as to cause a change in *elasticity* of said hair shafts *so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.*

The reasoning provided above in connection with claim 10 applies with equal force to establish that claim 38 also distinguishes patentably over Azar.

Rejections Based on McDaniel

Claims 10-24, 29-32, 38-57 and 59-69 are rejected as being anticipated by U.S. Patent No. 6,283,956 of McDaniel.

McDaniel discloses a process for skin treatment in which an agent is applied to the skin so that the agent penetrates the skin and bonds to or becomes incorporated into the hair shaft, the hair follicle, the hair bulb, or the hair duct, before the electromagnetic radiation is applied. The skin portion to which the agent is applied can then be exposed to electromagnetic radiation to cause “injury, damage or destruction of the hair follicle, hair bulb or the supporting skin tissue, thereby delaying regrowth of the hairs, or diminishing the hair shaft diameter, or miniaturizing the hair follicles or completely destroying these tissues, resulting in permanent hair removal.” (col. 4, lines 61-66.) McDaniel states that in some embodiments its process can be used to *stimulate* hair follicles “to grow, to have their growth cycle accelerated, to prolong the hair growth cycle, to increase the hair shaft diameter, to change the hair shaft color, to stimulate hairs

that are in a dormant state or which originate from an area of hair loss or baldness ...” (col. 6, lines 58-61.)

McDaniel does not teach *changing the shape* of a hair tip by applying radiation thereto *so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area*. In particular, it does not teach changing the shape of a hair tip in any of its methods for hair removal and hair stimulation. The only mention in McDaniel of changing the hair is in its discussion of hair stimulation, wherein McDaniel discloses changing the *hair shaft diameter*. But a change in the hair shaft diameter is distinct from a change in the *shape* of a *hair tip* and will not result in prevention, reduction, or treatment of pseudofolliculitis barbae (PFB) in the skin treatment area, as recited by the amended independent claim 10.

Further, there is no reason to believe that the methods of McDaniel would inherently cause a change in the shape of a hair tip. In fact, the radiation parameters utilized by McDaniel are different than those recited in amended claim 10 for changing the shapes of hair tips. For example, McDaniel utilizes radiation wavelengths greater than about 750 nm (see, col. 6, line 19). In contrast, amended independent claim 10 discloses the use of wavelengths in a range of about 380 nm to less about 600 nm.

In sum, McDaniel fails to teach or suggest the method of claim 10 and its associated advantages, e.g., changing the shapes of hair tips (e.g., by rounding the tips) to prevent PFB.

Accordingly, claim 10, and claims 11-24, 29-32 depending therefrom, are patentable over McDaniel.

Nor does McDaniel teach or suggest changing the elasticity of hair shafts through application of radiation without removing the hairs from the skin, as recited in claim 38. In particular, there is no indication in McDaniel that the change in the diameter of a hair shaft – one of the hair changes that it discloses – is associated with a change in elasticity of the hair shaft.

Claims 39-50 depend directly or indirectly on independent claim 38, and hence are also patentable.

Independent claim 51 recites a method of controlling hair growth by applying electromagnetic radiation having wavelength components in a range of *greater than 1200 nm to about 1400 nm* to one or more hair follicles in a skin treatment area so as to modulate hair growth, and *prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area*.

McDaniel does not teach applying radiating with wavelengths in a range *greater than 1200 to about 1400 nm* to hair follicles in order to modulate hair growth and *prevent, reduce, or treat pseudofolliculitis barbae (PFB)*. In fact, the largest radiation wavelength disclosed in McDaniel is 1064 nm, which is significantly less than the lower limit of the range greater than 1200 nm to about 1400 nm recited in claim 51.

Thus, McDaniel fails to anticipate claim 51 and claims 52-57 and 59, which depend directly or indirectly on claim 51.

Independent claim 60 recites a method of treating hair by irradiating a plurality of hair follicles in a treatment area with radiation of a wavelength, and fluence suitable for decreasing curliness of at least a portion of the hairs, so as to *prevent, reduce, or treat pseudofolliculitis barbae (PFB)* where the radiation wavelength is in a range of about 380 nm to about 600 nm.

McDaniel does not teach or suggest the use of radiation wavelengths in a range of about 380 nm to about 600 nm for decreasing curliness of hairs. In fact, there is no mention of decreasing curliness of hairs in McDaniel. Moreover, McDaniel utilizes radiation wavelengths in a range of about 750 nm to about 1000 nm, which is distinct from the range of about 380 nm to about 600 nm recited in claim 60.

Hence, independent claim 60, and dependent claims 61-69, distinguish patentably over McDaniel.

Rejections Under 35 U.S.C. 103

The Office Action rejects claims 1-6, 10-24, and 33-37 as being obvious over Altshuler in combination with Lefki. Claims 1-6 have been canceled.

Amended independent claim 10 recites applying electromagnetic radiation (EMR) *in a range of about 380 nm to less than about 600 nm* to a skin treatment area to deposit energy in one or more hair tips in the area so as to modify a shape of at least a portion of said hair tips *without removing the respective hairs from the skin so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.*

Lefki discloses a device for removing hair that includes a laser source, an adjustable laser beam manipulator for directing a laser beam onto a treatment area and an image sensor for detecting an image of a treatment area. Lefki is primarily concerned with removing hair using a laser beam that can be manipulated to point at particular targets within a given treatment area and would therefore be limited in his consideration of Altshuler to the discussion of hair removal parameters. Even if one were to combine Lefki with Altshuler, one would not arrive at the method of amended claim 10 because neither of the cited references teaches or suggests applying electromagnetic radiation (EMR) to a skin treatment area *so as to prevent, reduce, or treat pseudofolliculitis barbae (PFB) in the skin treatment area.*

In view of the above remarks, Applicants respectfully request allowance of independent claims 1 and 10, and claims 2-6, 11-24, and 33-37 depending therefrom.

Conclusion

In view of the above amendments and remarks, Applicants respectfully request reconsideration and allowance of the application. In the event that the remarks are not deemed to overcome the grounds for rejection, the Examiner is kindly requested to telephone the undersigned representative to discuss any remaining issues.

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Respectfully submitted,

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